

NEW GENERA AND SPECIES OF FISHES.

BY J. DOUGLAS OGILBY.

SILURIDÆ.

ARIUS PROXIMUS, sp. nov.

D. i 7, 0. A. 16.

Depth of body 4, length of head 3 in the total length; width of head $\frac{3}{4}$ of its length, the upper profile undulating and moderately oblique. Eye with free lid, its diameter 6 in the length of the head and $2\frac{1}{6}$ in that of the snout, which is rounded and $1\frac{2}{3}$ times as wide as long. Interorbital region gently rounded, its width considerably more than that of the mouth and $1\frac{5}{9}$ in the length of the head. Premaxillary teeth in a continuous band, which is deeply emarginate behind, obliquely truncated at the extremities, and six times as long as wide; mandibular band divided, gradually tapering from the symphysis; vomerine patches well developed, nearly square, confluent with one another and with the palatine patches, which are triangular, divergent posteriorly, a little longer than wide, and as wide as the united vomerine patches. Maxillary barbel $\frac{5}{8}$ of the length of the head, not extending directly backwards to the margin of the opercle; postmental barbel $\frac{5}{7}$ of the maxillary, inserted behind and outside the mental, which does not nearly reach the gill-opening. Cranial shield finely and irregularly granular, the granulation extending to the supraorbital region, but not nearly to the gill-opening. Nuchal shield evenly granular, its greatest width but little less than its length, which is $3\frac{1}{3}$ in its distance from the tip of the snout; outer border deeply concave, the hinder emarginate. Dorsal plate moderate, crescentic, granular, its mesial length $5\frac{1}{4}$ in that of the nuchal shield, with which it is in contact. Fontanelle inconspicuous; occipital groove deep and long, extending from between the posterior third of the eyes to the nuchal shield. Opercle smooth. Lateral line without

anterior granulation. Humeral process feebly granular, acute, extending along the proximal half of the pectoral spine. Gill-membranes meeting at an obtuse angle, the free flap narrow. Axillary pore moderate, slit-like. Distance of dorsal fin from tip of snout $2\frac{1}{2}$ in the total length; dorsal spine strong, granular in front, serrated behind, the sides striated, its length $\frac{4}{7}$ of that of the head: adipose fin longer than high, its length $\frac{5}{7}$ of that of the dorsal, its distance from which is $3\frac{3}{5}$ in the total length: anal fin emarginate, higher than long, its length $2\frac{3}{5}$ in the head: ventral obtusely pointed, $\frac{4}{9}$ of the head, and not reaching to the anal: pectoral with 10 soft rays, the spine similar to that of the dorsal, its length $\frac{4}{7}$ of the head: upper caudal lobe much shorter than the head, $\frac{1}{4}$ of the total length; least depth of caudal peduncle $\frac{1}{2}$ of its length behind the adipose fin. Vent a little nearer to the ventrals than to the anal. Deep lead-blue above, silvery below. (*Proximus*, near: on account of its outward resemblance to *A. australis*.)

The example described is in the Macleay Museum, Sydney University, and measures 400 millimeters. It was obtained at Port Darwin, North Australia.

ARIUS STIRLINGI, sp.nov.

B. vi. D. i 7, 0. A. 22.

Depth of body $4\frac{2}{5}$, length of head $3\frac{3}{5}$ in the total length; width of head $\frac{4}{5}$ of its length, the upper profile linear and but little oblique. Eye with partially adnate lid, its diameter 7 in the length of the head and $2\frac{2}{3}$ in that of the snout, which is rounded, and $1\frac{1}{3}$ times as wide as long. Interorbital region gently rounded, its width a little less than that of the mouth and $2\frac{1}{3}$ in the length of the head. Premaxillary teeth in a continuous band, which is emarginate behind, obliquely rounded at the extremities, and about nine times as long as wide; mandibular band narrowly divided, tapering from the symphysis; vomerine patches well developed, separated by an interspace; palatine patch ovate, much wider than long, narrowly separated from and twice as wide as a

vomerine patch. Maxillary barbel $\frac{2}{5}$ longer than the head, extending almost to the end of the pectoral spine. Postmental barbel $\frac{4}{5}$ of the maxillary, inserted but little behind and well outside the mental, which reaches far beyond the gill-opening. Cranial shield with a few coarse granules irregularly scattered over the median posterior region. Nuchal shield strongly keeled, finely granular, the granules forming divergent series posteriorly, its greatest width $\frac{4}{7}$ of its length, which is $\frac{2}{7}$ of its distance from the tip of the snout; outer border nearly linear, the posterior deeply forked. Dorsal plate moderate, subcruciform, feebly granular, its mesial length $3\frac{1}{2}$ in that of the nuchal shield. Fontanelle long and narrow, conspicuous; occipital groove strongly developed, extending backwards to the nuchal shield. Opercle smooth. Lateral line without anterior granules. Humeral process smooth, terminating in a blunt point, and extending along the proximal $\frac{1}{3}$ of the pectoral spine. Gill-membranes forming together a deep emargination, the free flap narrow; gill-rakers 4 + 12, the longest $\frac{2}{3}$ of the diameter of the eye. Axillary pore minute. Distance of dorsal fin from tip of snout $2\frac{3}{4}$ in the total length; dorsal spine strong, feebly granular in front, serrated behind, the sides smooth, nearly as long as the head; first dorsal ray produced into a filament which reaches when laid back to the end of the base of the adipose fin: adipose fin about as high as long, its base a little less than that of the dorsal, its distance from which is $\frac{1}{4}$ of the total length: anal fin feebly emarginate, much longer than high, its length $1\frac{2}{3}$ in the head: ventral rounded, $\frac{5}{8}$ of the head and reaching a little beyond the base of the anal: pectoral with 9 soft rays, the spine similar to that of the dorsal, its length $\frac{3}{4}$ of the head: upper caudal lobe longer than the head, $3\frac{1}{4}$ in the total length; least depth of caudal peduncle $\frac{1}{2}$ of its length behind the adipose fin. Vent nearer to the ventrals than to the anal. Silvery above, strongly washed with blue; yellowish-white below: dorsal filament, tips of dorsal and caudal rays, and outer border of adipose fin dark brown.

The single specimen from which the diagnosis was drawn up forms one of a small collection of catfishes and eels kindly

forwarded at my request by the authorities of the South Australian Museum for use in my work. It came from the estuary of the Adelaide River, Northern Territory, and measures 270 millimeters. I have great pleasure in naming it for Dr. Stirling, F.R.S., of Adelaide, to whose kind offices I am mainly indebted for the opportunity of describing this very distinct form.

A. stirlingi belongs to the *Hexanematichthys* group, but may readily be distinguished from *A. australis* by its much longer barbels, wider dorsal plate, smooth humeral process, longer dorsal spine and filamentous first ray, much larger anal fin, &c.

PLOTOSIDÆ.

ENDORRHIS, gen.nov.

Body elongate and strongly compressed, the skin nearly smooth. Head subconical, much wider than deep, closely studded above with small, wart-like papillæ; snout rounded and somewhat declivous anteriorly. Mouth moderate or rather large, the upper jaw projecting; lips thick and papillose, the upper without posterior filament; mental fold of lower lip small. Premaxillary teeth conical, pluriserial, in two well developed patches, the outer series enlarged; mandibular teeth in a broad, crescentic, narrowly divided band, the outer series conical, the others granular and unequal; vomerine teeth similar to the inner mandibular. Anterior nostril on the inner side of the lip, with a well developed, grooved tentacle. Barbels eight, two nasal, two maxillary, and four mental, all slender. Eyes large, directed upwards and outwards, with continuous free lid. Gill-membranes partially united, attached to the isthmus along the median line, leaving a more or less restricted margin free; isthmus moderate; three posterior gill arches with accessory branchial appendages; seven to nine branchiostegals; gill-rakers well developed, smooth, compressed, in moderate number. Axillary pore small. Tail not twice as long as head and trunk. First dorsal with a pungent spine and five or six soft rays, originating above the base of the pectoral; second dorsal and anal well developed, continuous with the

caudal round the tip of the tail; ventrals rounded, with 10 to 16 rays, inserted below or a little behind the origin of the second dorsal; pectoral rounded, with a pungent spine and 12 to 15 soft rays; caudal rounded.

E t y m o l o g y :—*ἐνδον*, inside; *ρίς*, nostril.

T y p e :—*Copidoglanis longifilis*, Macleay.

D i s t r i b u t i o n :—North coast of Australia.

LEPTOCEPHALIDÆ.

Under the name *Congermuræna*, Kaup, or *Congromuræna*, as amended by Günther, a large number of small congriform eels have been described by various authors. After a careful study of most of the descriptions I have arrived at the conclusion that these forms are clearly divisible into three groups, each of which should be known by a distinct generic name. The following brief diagnosis will suffice to show the characters which are relied on to separate the proposed genera :—

CONGERMURÆNA.

Congermuræna, Kaup, Catal. Apod. Fish. p. 105, 1856 (*habenata*).

Gnathophis, Kaup, Aale Hamb. Mus. p. 7, 1859 (*heterognathus*).

Teeth mostly granular, the outer series in the jaws acute; vomerine band well developed. Head moderate, much shorter than the trunk. Eyes large. Dorsal originating behind the base of the pectorals, which are well developed. Vent well in advance of the middle of the length. (*Conger*; *Muræna*: related genera).

D i s t r i b u t i o n :—Eastern Pacific and Indian Oceans.

Following Günther all recent authors have looked upon De la Roche's *Muræna balearica* as the type of Kaup's genus, but a glance at that author's Catalogue of Apodal Fishes will convince the most sceptical that such a course is indefensible. In that work three species are referred to the genus *Congermuræna*, namely, *Congrus habenatus*, Richardson, of which a full description, extending over more than two pages, is given, *Muræna balearica*, De la Roche, and *Muræna mystax*, De la Roche, each of the two latter being dismissed with a description of less than

three lines. It is impossible, therefore, to consider either of these species as providing the type of Kaup's genus, and the fact that that author's description was mainly copied from Richardson does not invalidate the claim of *habenata* to that position.

Five species are apparently referable to the genus *Congermuræna* as here restricted, namely :—

1. CONGERMURÆNA HABENATA.

= *Congrus habenatus*, Richardson, Zool. Erebus & Terror, Ichth. p. 109, pl. L. ff. 1-5, 1844.

Hab.—New Zealand.

2. CONGERMURÆNA LONGICAUDA.

= *Congromuræna longicauda*, Ramsay & Ogilby, Proc. Linn. Soc. N.S. Wales, xii. 1888, p. 1022.

Hab.—New South Wales. ? Victoria. ? Tasmania.

Neither Castelnau nor Johnston mentions the comparative length of the tail to that of the head and body in the specimens from Victoria and Tasmania, and it is impossible, therefore, to state whether they belong to the long-tailed continental or the short-tailed insular species. In the seven New South Wales examples which I have examined the tail is much longer than in the single New Zealand specimen in the University Museum or than in that described by Richardson, but if when a larger series shall have been compared, no other permanent difference is found to exist, it is questionable whether it will not be advisable to reunite the two forms or merely separate them subspecifically. This, however, opens up the broader question as to whether too much stress has not been laid upon the proportionate measurements of the tail and trunk in these eels, a question which cannot be satisfactorily settled until our knowledge of the various species is much more extended than it is at present.

3. CONGERMURÆNA SANCTI-PAULI, NOM. NOV.

= *Ophisoma habenatus*?, Kner, Voy. Novara, Fisch. p. 374, pl. xiii. f. 2, 1867.

Hab.—St. Paul's Island, Indian Ocean.

Differs from the two preceding species in the much larger head and at the same time much slighter projection of the upper jaw beyond the lower. It is more closely allied to *C. longicauda* than to *C. habenata*.

4. CONGERMURÆNA HETEROGNATHA.

= *Myrophis heterognathus*, Bleeker, Act. Soc. Sc. Néerl. Ind. v. p. 9, pl. iii. f. 1.

Hab.—Japan.

5. CONGERMURÆNA NEOGUINAICA.

= *Conger neoguinaicus*, Bleeker, Act. Soc. Sc. Néerl. Ind. vi. p. 22.

Hab.—Dorey, New Guinea.

Dr. Günther's suggestion that this species "may be identical with *C. habenata*" cannot be accepted if Bleeker is correct in describing the jaws as of equal length, the snout as $4\frac{1}{2}$ in the length of the head, and the vomerine teeth as biserial and "bluntly conical"; indeed, in view of the latter character, I am not fully satisfied that the species properly belongs to the present group.

CONGRELLUS, gen. nov.

Ariosoma, part., Swainson, Classif. Fish. i. p. 220, 1838, atypic.

Ophisoma, part., Swainson, l.c. ii. p. 334, 1839, (*obtusa*).

Congromuræna, part., Günther, Catal. Fish. viii., p. 40, 1870 (*balearica*); amended orthography.

Teeth acicular, those of the upper jaw not extending conspicuously forward beyond the mandible; vomerine band well developed. Head small, much shorter than the trunk. Cleft of mouth extending to below the middle of the eye or not so far. Eyes large. Dorsal originating above or nearly above the base of the pectorals, which are well developed. Vent usually but little in advance of the middle of the length. (A little conger; diminutive of *Congrus*, a related genus, = *Leptocephalus*).

Type:—*Muræna balearica*, De la Roche.

Distribution:—Tropical and subtropical parts of the Atlantic and Pacific Oceans; Mediterranean.

Much uncertainty has prevailed as to the correct generic name by which the group of small congers, of which *balearica* may be taken as the type, should be known; and though the name *Ophisoma*, Swainson, has received the sanction of such high authorities at Drs. Bleeker and Gilbert,* there can be no doubt that this name, as also the *Ariosoma* of the same author, should be discarded, as indeed has been done more recently by Drs. Jordan and Evermann.

The genus *Ariosoma* was first introduced into the system by Swainson in the following terms:—"In the new genus *Ariosoma*, Sw., the nostrils are not tubular, and the branchial aperture is in front of the pectoral. Several of these fishes inhabit the Sicilian shores, and they are richly coloured with silver reflections, very different from the lurid hues of the true eels." Again in the following year he defines the genus thus†:—"Spiracle before the base of the pectoral; nostrils simple." It is probable that one of the "several fishes" which Swainson had in mind when penning the above diagnosis was De la Roche's *Murena balearica*, the silvery reflections and Sicilian locality being applicable thereto, though the position assigned to the gill-opening is incorrect. Swainson, however, neglected to specify a type for his genus, and in this uncertainty it is therefore best to reject *Ariosoma* altogether.

On a subsequent page of this volume Swainson defines the same genus under the name *Ophisoma*, correcting his former omission by a reference to two species which he names respectively *O. obtusa* and *O. acuta*. The former of these is probably founded on a young example of the conger (*Leptocephalus conger*) and, this being the type, the name cannot be used for the genus under consideration, even though *Ophisoma acuta* be referable to *Murena balearica*. In any event the name would be distasteful to many biologists because on several preceding pages of the same

* Bleeker, Atl. Ichth. iv. p. 27, 1864; Gilbert, Proc. U.S. Nat. Mus. xiv. 1891, p. 349.

† *Loc. cit.* ii. p. 196, 1839.

work the genus *Ophisomus* and the subfamily *Ophisominae* have been applied to certain blennioid fishes. Indeed it appears probable that the application of the name *Ophisoma*, as a substitute for *Ariosoma*, to these eels was due to some confusion in their author's mind between his genera *Ophisomus* (= *Pholis*) and *Ariosoma*, and was not of deliberate intention.

The following species are referable to the genus *Congrellus* as here restricted :—

1. CONGRELLUS BALEARICUS.

= *Muræna balearica*, De la Roche, Ann. Mus. xiii. 1809, p. 327, f. iii.

Hab.—Mediterranean.

1a. CONGRELLUS OPISTHOPHTHALMUS.

= *Conger opisthophthalmus*, Ranzani, De Nov. Spec. Pisc. Disser. Prim. 16, pl. v. f. 1, 1838.

Hab.—Western Tropical Atlantic.

1b. CONGRELLUS MELLISSII.

= *Congromuræna mellissii*, Günther, Catal. Fish. viii. p. 42, 1870.

Hab.—St. Helena.

2. CONGRELLUS GILBERTI, nom.nov.

= *Ophisoma balearicum*, Gilbert, Proc. U.S. Nat. Mus. xiv. 1891, p. 349.

Hab.—Bay of Panama. ? Lord Howe Island.

The small eel which I identified (see Rep. Lord Howe Island, Fish. p. 72, 1889) with *C. mellissii*, possibly belongs to this form. The specimen has unfortunately been mislaid.

In writing of the Panama examples, Prof. Gilbert incidentally refers to *Ophisoma balearicum* (= *Congrellus balearicus*), and its geographical varieties or, as I prefer to consider them, sub-species in the following terms :—“They agree perfectly with the descriptions of *O. compressum*” (? *impressum*), “Poey, and *O. mellissii*, Günther, and show in addition a brownish-black blotch below the eye, not noted in descriptions of other species. From the current

descriptions of *O. balearicum* they differ in the larger mouth, the maxillary reaching to below the middle of the eye. It is probable, however, that adults of all the species of *Ophisoma* agree in this respect. Direct comparison of specimens from the Mediterranean with those from the West Indies and from the tropical Pacific may show them to be specifically distinct, but it seems more advisable for the present to consider *balearicum* a widely distributed form, agreeing in this respect with its nearly *Leptocephalus conger*. *Ophisoma anago* may also be properly referred to this species." Drs. Jordan and Davis in the same year, and Drs. Jordan and Evermann later on, accept Prof. Gilbert's conclusions, but with evident and, I think, well-founded hesitation. The former authors, writing under *Ophisoma balearicum*, say: "As it now stands the range of the species is wide, and there may prove, upon comparison of specimens from different parts of the range, to be specific differences; as yet no such comparison has been made. The specimens before us are from Palermo, and from the Bonaparte collection without locality. We have compared these with Poey's account of the Cuban species called *impressus*, and can find no difference. *Conger analis*, Poey, also from Cuba, seems to differ only in the slightly larger mouth and stronger teeth, and is probably identical with *impressus*. *Congromurana mellissii*, Günther, seems to belong here rather than under the synonymy of *nystax*, where it is placed by Dr. Steindachner. *Conger opisthophthalmus* and *Conger microstomus* seem to be the same, and specimens recently obtained by Dr. Gilbert from the Galapagos Islands seem referable to this species. Should the American prove different it will stand as *Ophisoma opisthophthalmus*."

The same note of indecision runs through the subsequent utterances of Jordan and Evermann, and though I have provisionally accepted their conclusions with regard to the specific identity of the western Atlantic forms—*opisthophthalmus*, Ranzani; *microstomus*, Castelnau; *analis*, Poey; and *impressus*, Poey*—with *balearicus*, I am not disposed to assent so readily to

* I have not been able to consult the descriptions of any of these fishes.

the conclusions which these several distinguished authors have come to or acquiesced in as to the identity of the Atlantic and Pacific types, since by comparing the description of Dr. Gilbert with my specimen of *balearicus*, we find that in the latter, in addition to the differences noted by Gilbert, the head is comparatively much larger, the gill-slit much longer, and the pectoral fin shorter.

In none of these latter papers, however, is the Indo-Malayan *C. anago* mentioned, and if Dr. Gilbert's suggestion as to the identity of that species with *balearicus* is correct, it follows that the latter has not only an extraordinarily wide range, but also that it is very variable in its characters. In my opinion, however, *anago* is a distinct species which should possibly be kept apart from *anagooides*, while the differences pointed out by Gilbert between the Atlantic and Pacific short-tailed forms, in addition to those which I have referred to above, are sufficient to warrant their separation, and the latter, not having as yet received a distinctive title, might be known henceforth by the name of its discoverer.

3. CONGRELLUS ANAGO.

= *Conger anago*, Schlegel, Faun. Japon. Poiss. p. 259, pl. cxiii. f. 1, 1850.

Hab.—Japan.

3a. CONGRELLUS ANAGOIDES.

= *Conger anagoides*, Bleeker, Verh. Batav. Gen. xxv. 1852, p. 76.

Hab.—India to Malaysia.

4. CONGRELLUS FIJIENSIS, sp. nov.

Body rather slender, its depth $2\frac{3}{5}$ in the length of the head and 17 in the total length. Length of head $1\frac{7}{8}$ in that of the trunk and $6\frac{1}{2}$ in the total length. Snout obtusely pointed, $\frac{3}{5}$ longer than broad, projecting well beyond the lower jaw, its length 4 in that of the head. Eye large, as long as the snout. Cleft of mouth extending to the vertical from the middle of the eye, its

length from the tip of the snout $2\frac{2}{5}$ in that of the head. Anterior nostril with a raised rim, which forms a flap behind; posterior an oval foramen some distance in front of the middle of the eye. Teeth in the jaws fine, acute, and cardiform, of equal size, and directed slightly backwards; premaxillaries densely toothed; maxillary and mandibular bands triserial anteriorly, gradually narrowing to a single series posteriorly; vomerine teeth continuous with the premaxillary, those on the shaft short, stout, and conical, biserial in front, uniserial behind. Gill-opening rather small, the length of the slit about $\frac{5}{8}$ of the width of the isthmus and less than $\frac{1}{2}$ the diameter of the eye. Vent well in advance of the middle of the length, its distance from the extremity of the snout $1\frac{1}{4}$ in the length of the tail. Dorsal and anal fins well-developed, the former commencing above the base of the pectoral, the space between its origin and the tip of the snout $5\frac{1}{5}$ in the total length and $2\frac{2}{5}$ in the body; pectoral well developed, pointed, its length $2\frac{3}{4}$ in that of the head and $1\frac{1}{2}$ in the gape. Uniform pale yellow; (*fijiensis*, a native of the Fijian Seas.)

There is a single specimen of this leptocephalid in the museum of the Sydney University, which was collected many years ago by Mr. A. J. Boyd and measures 152 millimeters.

A second species has been described from the Fiji Group by Dr. Günther under the name *guttulata*; compared with the present species it will be seen that the head is longer in comparison with the trunk and the body much shorter as compared with the tail; the eye is also smaller.

5. CONGRELLUS ÆQUOREUS.

= *Congermurana æquorea*, Gilbert & Cramer, Proc. U.S. Nat. Mus. xix. 1896, p. 405, pl. xxxvii.

Hab.—Kaiwi Channel, Hawaiian Islands, in 375 fathoms.

6. CONGRELLUS MEGASTOMUS.

= *Congromurana megastoma*, Günther, Voy. Challenger, Zool. i. Shore Fish. p. 73, 1880.

Hab.—Japan.

7. CONGRELLUS GUTTULATUS.

= *Congromuræna guttulata*, Günther, Voy. Challenger, Zool. xxii. p. 252, 1887.

Hab.—Fiji, in 315 fathoms.

It is much to be regretted that Dr. Günther's descriptions of these two species are so inadequate as to leave us in some doubt as to their true position. *Anguilla myriaster*, Brevoort, placed by Günther under *Congromuræna* does not appear to belong to that group.

BATHYCONGRUS, gen.nov.

Teeth acicular, those of the upper jaw extending forwards beyond the mandible; vomerine teeth more or less developed. Head large, subequal to the trunk. Cleft of mouth extending to behind the middle of the eye. Eyes small. Dorsal originating above or nearly above the base of the pectorals, which are usually short. Vent far in advance of the middle of the length. (*Bathús*, deep; *Congrus*, an allied genus, = *Leptocephalus*.)

Type:—*Congromuræna nasica*, Alcock.

Distribution:—Tropical seas, for the most part inhabiting considerable depths.

At least eight species are referable to this genus, namely:—

1. BATHYCONGRUS NASICUS.

= *Congromuræna nasica*, Alcock, Journ. As. Soc. Bengal, lxii. 1893, p. 15.

Hab.—Bay of Bengal, in 128 fathoms.

2. BATHYCONGRUS MACRURUS.

= *Ophisoma macrurum*, Gilbert, Proc. U.S. Nat. Mus. xiv. 1891, p. 351.

Hab.—Gulf of California.

3. BATHYCONGRUS MUSTELICEPS.

= *Congromuræna musteliceps*, Alcock, Journ. As. Soc. Bengal, lxiii. 1894, p. 19, pl. vii. f. 5.

Hab.—Bay of Bengal, in 165 to 250 fathoms.

4. BATHYCONGRUS SQUALICEPS.

= *Congromuræna squaliceps*, Alcock, Journ. As. Soc. Bengal, lxii. 1893, p. 15.

Hab.—Bay of Bengal, in 128 fathoms.

5. BATHYCONGRUS FLAVUS.

= *Congermuræna flava*, Goode & Bean, Oc. Ichth. p. 138, f. 159, 1895.

Hab.—Gulf Stream, in 31 to 111 fathoms.

6. BATHYCONGRUS MACROCERCUS.

= *Congromuræna macrocerus*, Alcock, Journ. As. Soc. Bengal, lxiii. 1894, p. 20 (name substituted for *C. longicauda*, Alcock, Ann. & Mag. Nat. Hist. (6) iv. 1889, p. 455).

Hab.—Andaman Sea and Bay of Bengal; characteristic of the fauna between 200 and 300 fathoms.

7. BATHYCONGRUS NITENS.

= *Ophisoma nitens*, Jordan & Bollman, Proc. U.S. Nat. Mus. xiii. 1890, p. 153.

Hab.—Bay of Panama.

Though Drs. Jordan and Bollman do not mention the teeth of *B. nitens*, I consider that the omission only goes to prove that the dentition does not materially differ from that of the other forms with which they were acquainted, and since in all other characters it is a true *Bathycongrus* I have thought it better to place it in that genus and in the neighbourhood of *B. macrocerus*, pending further information.

8. BATHYCONGRUS PRORIGER.

= *Ophisoma prorigerum*, Gilbert, Proc. U.S. Nat. Mus. xiv. 1891, p. 351.

Hab.—Ecuador, in 401 fathoms; Bay of Panama.

9. BATHYCONGRUS MYSTAX.

= *Muræna mystax*, De la Roche, Ann. Mus. xiii. 1809, p. 328, pl. x.

With the exception of the short description in the British Museum Catalogue (viii. p. 43) I have had no opportunity of determining the position of this species, but I believe it will be found to enter this genus.

XIPHIDIIDÆ.

EUCENTRONOTUS, gen.nov.

Body anguilliform, strongly compressed. Scales minute, deeply embedded, non-imbricate present on the tail only. Lateral line short, consisting of a few tubes on the humeral region. Head moderate, wider than deep, the cheeks swollen; snout short and rounded. Mouth anterior, with rather wide, oblique cleft, the lower jaw projecting; lips thick and plicated, the fold interrupted below. Premaxillaries not protractile, the skin continuous with that of the snout; distal portion of maxillary exposed and strongly dilated, reaching to below the eyes. Jaws with stout conical teeth, in two series anteriorly, one laterally; vomer with a single series of similar teeth; palate toothless. Nostrils without tentacles. Eyes rather small, supero-lateral, entirely covered by thin skin, moderately separated, without tentacle. Opercles large, produced backwards, somewhat swollen. Gill-openings wide; gill-membranes united, free from the isthmus; four branchiostegals; gill-rakers absent. A single dorsal fin originating slightly behind the head, composed almost entirely of spines, confluent with the caudal; anal composed of simple, articulated rays, coextensive with the caudal portion of the vertebral column; ventrals close together, very small, composed of three intimately connected rays; no pectorals; caudal small and obtusely pointed, the rays simple. Vertebrae 92 (33 + 59).

E t y m o l o g y :—*ζευ*, well; *κέτρον*, spine; *νότος*, back.

D i s t r i b u t i o n.—South Australia.

EUCENTRONOTUS ZIETZI, sp.nov.

D. lxxvii-lxxix 4. *A*. i 57-59.

Depth of body 16 to 17, length of head $6\frac{2}{3}$ to 8 in the total length; width of head $\frac{1}{2}$ to $\frac{4}{5}$ of its length. Snout rounded,

slightly convex, much shorter than the eye, which is $5\frac{1}{5}$ to $5\frac{1}{3}$ in the length of the head. Interorbital region almost flat, its width $7\frac{1}{2}$ to $8\frac{1}{2}$ in the length of the head. Maxillary extending to the vertical from the posterior border of the eye, its length $\frac{1}{3}$ of the head. Dorsal rays increasing in length to the last, which is about $\frac{2}{3}$ longer than the eye: anal originating below the 23rd or 24th dorsal spine, its distance from the tip of the mandible $2\frac{1}{3}$ to $2\frac{1}{2}$ in the total length: ventral shorter than the eye: caudal with 13 rays, 14 to $15\frac{1}{2}$ in the total length. Pale yellowish or pinkish, the upper surface and the dorsal fin chestnut-brown growing lighter posteriorly, the two colours sharply defined; upper surface of head uniform yellowish-brown or with longitudinal darker and lighter bands.

Named for Dr. A. Zietz, Assistant Director, South Australian Museum.

Described from three examples from St. Vincent's Gulf, the largest of which measures 105 millimeters.

PLEURONECTIDÆ.

ARNOGLOSSUS FISONI, sp.nov.

B. vi. D 98. A. 74-75. Ll. 55-58. Vert. 10/29.

Depth of body $1\frac{7}{8}$ to 2, length of head $4\frac{1}{5}$ to $4\frac{1}{3}$ in the total length. Head a little deeper than long, the profile from in front of the upper eye evenly convex and separated from the rounded snout by a conspicuous cleft, its length $\frac{4}{5}$ to $\frac{5}{8}$ of the space between the anal fin and the commencement of the straight portion of the lateral line. Eyes without orbital ridge, the lower very slightly in advance of the upper, its diameter $4\frac{2}{5}$ to $4\frac{3}{5}$ in the length of the head. Interorbital region narrow and flat, naked. Snout smooth, $\frac{1}{4}$ to $\frac{1}{3}$ longer than the eye. Jaws equal; cleft of mouth very oblique, the maxillary extending to the vertical from the anterior border of the eye, its length $2\frac{2}{5}$ to $2\frac{1}{2}$ in the head, its width at the distal extremity $\frac{5}{8}$ of the diameter of the eye. Jaws with a single series of small teeth, those on the left ramus of the mandible somewhat larger and more distant;

vomer toothless. Gill-rakers 0+9, the longest about $\frac{1}{3}$ of the diameter of the eye. Dorsal fin originating on the under side of the snout immediately above the anterior nostril; front rays not produced, much shorter than those of the posterior half of the fin, which are $\frac{5}{9}$ of the length of the head: preanal spines two, strong and compressed: ventrals with six rays, the left $2\frac{1}{3}$ to $2\frac{1}{2}$ times as long as the right, the fifth ray the longest, reaching to the third or fourth anal ray, and $2\frac{1}{5}$ to $2\frac{1}{3}$ in the head: left pectoral with nine rays, the two upper, in the male, slightly produced, its length, without the filament, $1\frac{2}{3}$ to $1\frac{3}{4}$ in the head; right pectoral as long as but narrower than the left, with eight rays: caudal cuneiform, $\frac{1}{5}$ of the total length: vertical fins in contact with the base of the caudal, with simple, naked rays. Scales cycloid, finely and concentrically striated. Curved portion of the lateral line more than twice as long as high, its length $5\frac{1}{3}$ in the straight portion. Sandy gray, with numerous small, faint, darker ocelli; a narrow yellowish band, parallel with the dorsal and anal profiles along the base of the interspinous rays; all the fins with small darker and lighter spots.

The description is taken from two specimens trawled in 20 fathoms off Caloundra Head, Moreton Bay, during last June, and measuring respectively 115 and 120 millimeters. I have much pleasure in naming this pretty little species for my friend Mr. Cecil S. Fison, Inspector of Fisheries for Queensland, from whom I received much kindness and useful information during my recent visit to Brisbane.

PARALICHTHYS NOVÆ-CAMBRÆ, sp.nov.

Pseudorhombus multimaculatus (not Günther), Macleay, Proc. Linn. Soc. N.S. Wales, vi. 1881, p. 125; Ogilby, Edib. Fish. N.S. Wales, p. 157, pl. xxxviii., 1893.

D. 67-71. A. 52-53. L. lat. 66-73. Vert. 10/25.

Depth of body $1\frac{4}{5}$ to 2, length of head $3\frac{3}{4}$ to 4 in the total length. Upper profile of head with a deep concavity in front of the eyes, its length a little less than the depth at the inferior

extremity of the clavicle, which is equal to the space between the anal fin and the commencement of the straight portion of the lateral line. Upper eye inappreciably in advance of the lower, the latter with an interior protecting ridge, its diameter $4\frac{2}{3}$ to 5 in the length of the head and as long as or a little longer than the snout. Upper jaw slightly longer than the lower, the maxillary extending to the vertical from the posterior border of the eye or not quite so far, its length from the tip of the snout $2\frac{1}{3}$ to $2\frac{1}{2}$ in that of the head. Upper jaw with three to five pairs of slightly enlarged teeth anteriorly; lower with 15 to 20 unequal teeth on each side. Gill-rakers 3+8, very short and stout, the longest about $\frac{1}{4}$ of the diameter of the eye. Dorsal fin originating in front of the upper eye; the anterior rays well developed with the membrane deeply cleft: anal spine inconspicuous: ventrals subequal, with six rays, the second the longest, $1\frac{4}{5}$ to $2\frac{1}{5}$ in the length of the head and reaching to the third or fourth anal ray: pectoral with 11 or 12 rays, the left considerably the longer, extending beyond the curve of the lateral line, and $5\frac{1}{2}$ to $5\frac{3}{4}$ in the total length: caudal cuneiform, $4\frac{1}{3}$ to $4\frac{1}{5}$ in the total length; least depth of peduncle $3\frac{4}{5}$ to 4 in the depth of the body. Snout and interorbital ridge naked; one or two series of small scales posteriorly on the left maxillary and mandible. Curved portion of the lateral line about three times as long as deep, its length $2\frac{4}{5}$ to 3 in the straight portion. Rich olive or umber-brown, with the margin of the scales rusty, and with numerous small, milk-white or saffron, dark-edged spots, intermixed with larger blotches, in which the lighter centre is generally broken up into spots; dorsal and anal rays dotted with chestnut-brown and with a conspicuous black spot about every tenth ray; ventrals edged with saffron; caudal clouded with brown: iris brown, with a narrow golden band round the pupil; (*novae-cambrice*, belonging to New South Wales).

Length, to 400 millimeters.

Type:—In the Australian Museum, Sydney.

Distribution:—Coast of New South Wales, chiefly frequenting mud and sand banks near the mouths of rivers, and



apparently not found out at sea. The description is taken from eight specimens captured by the seine near the mouth of George's River, in July; they measured from 225 to 320 millimeters, and were in excellent condition for the table. None of them showed any symptoms of spawning except the largest, and this was fully distended with ova, which would have been shed at an early date. Numerous young flounders, from 50 to 100 millimeters in length, were brought ashore by the net at the same time, but were carefully returned by the fishermen to their native element.

Australian writers have confounded this species with *Pseudorhombus multimaculatus*, Günther, from which, however, it differs in having larger scales, a constantly shallower body and shorter head, a projecting upper jaw, longer and almost naked maxillary, cuneiform caudal, and very short, stout, blunt gill-rakers. With the two other Australian species, *Paralichthys arsius* and *P. muelleri*, it cannot possibly be confounded.

INCERTÆ SEDIS.

CREEDIA, gen.nov.

Body elongate and compressed. Scales large, cycloid, adherent. Lateral line composed of a series of free, curved scales, arranged so that the tip of each scale touches the outer curve of the succeeding one, leaving an open space between it and the body. Head moderate, conical, with long, pointed, overhanging snout, naked. Mouth with wide, oblique cleft. Premaxillaries protractile, broad anteriorly, forming the entire margin of the upper jaw; maxillaries well developed, distinct from the premaxillaries. Lower jaw with two series of small, conical teeth, the rest of the mouth toothless. Gill-openings wide; gill-membranes separate, free from the isthmus; seven branchiostegals. Dorsal fin posterior, with 12 articulated rays; anal much longer than the dorsal, with 26 rays; ventrals inserted somewhat in advance of the pectorals, close together, with 5 soft rays; pectorals pointed, with 12 rays, the upper the longest; caudal rounded.

E t y m o l o g y :—Named for my friend, the Hon. John Mildred Creed, M.L.C., to whose unfailing kindness and support my present position in Australian science is mainly due.

Distribution :—Coast of New South Wales.

CREEDIA CLATHRISQUAMIS, sp.nov.

D. 12. A. 26. Sc. 4/42/1. L. lat. 40.

Depth of body 12, length of head $4\frac{2}{3}$ in the total length. Eyes prominent, directed upwards and forwards, close together, $\frac{4}{7}$ of the length of the snout, which is acutely pointed, and $\frac{2}{7}$ of the head. Maxillary reaching slightly beyond the anterior border of the eye. Space between the origin of the dorsal and the base of the caudal $\frac{2}{3}$ of its distance from the tip of the snout, that between the origin of the anal and the tip of the snout $\frac{4}{5}$ of its distance from the base of the caudal, to which it almost extends: second ventral ray the longest, about $\frac{1}{3}$ of the head: pectoral $\frac{1}{2}$ of the head: caudal $\frac{1}{8}$ of the total length. Tips of lateral line scales smooth and rounded, their outer edges also smooth, except about the middle of the length, where they are strongly pectinated; the lower opening between the scale and the body is somewhat triangular, the upper slit-like. Colourless; a few minute black spots along the base of the anal fin; irides black.

E t y m o l o g y :—*clathri*, lattice-work; *squama*, scale.

T y p e :—In the Australian Museum, Sydney.

D i s t r i b u t i o n :—Maroubra Beach, near Sydney. Known from a single specimen obtained by Mr. Thomas Whitelegge in June last, measuring 37 millimeters.